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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/412,512	10/05/1999	SHUNPEI YAMAZAKI	0756-2046	9755
31780	7590	12/23/2003	EXAMINER	
ERIC ROBINSON PMB 955 21010 SOUTHBANK ST. POTOMAC FALLS, VA 20165			BOOTH, RICHARD A	
			ART UNIT	PAPER NUMBER
			2812	

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

09/412,512

### Applicant(s)

YAMAZAKI, SHUNPEI

### Examiner

Richard A. Booth

### Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14-16, 18, 19, 31-36, 39, 40, 43, 44, 48-50 and 52-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-16, 18, 19, 31-36, 39, 40, 43, 44, 48-50 and 52-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-16, 18-19, 31-36, 39-40, 43-44, 48-50, 52, and 53-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamatani et al., JP 09-312260 in view of Zhang, U.S. Patent 5,236,850 and further in view of Curran, U.S. Patent 5,476,810 and Kim et al., U.S. Patent 6,188,452.

Hamatani et al., JP 09-312260 (an equivalent of U.S. Patent 6,077,731) shows the invention substantially as claimed including a method of manufacturing a semiconductor device comprising the steps of: forming a semiconductor film comprising silicon over a surface; irradiating said semiconductor film which includes a metal element for enhancing crystallization with laser light (see Figures and abstract and also see, for example, in U.S. Patent 6,077,331, col. 12-line 64 to col. 13-line 9).

Hamatani et al. fails to expressly disclose forming the semiconductor film by sputtering in an inert gas and the particular LCD structure claimed, forming the semiconductor film over a plastic substrate with an intermediate base film, and forming a gate insulating film comprising a benzocyclobutene (BCB) film on the semiconductor film.

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Zhang discloses forming a semiconductor film through sputtering in an inert atmosphere (see abstract). In view of this disclosure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process of Hamatani et al. so as to form the semiconductor film through sputtering in an inert atmosphere because of the reasons elaborated upon by Zhang at column 1, lines 28-34. With respect to the LCD structure of claim 19, official notice was taken with respect to forming this structure previously (for example, see office action mailed 10-3-01) and therefore these limitations are considered admitted prior art. Furthermore, Curran discloses the use of plastic substrates 20 as well as intermediate films (see col. 3-line 51 to col. 7-line 4 and fig. 5). In view of this disclosure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process of Hamatani et al. modified by Zhang so as to use a plastic substrate because such a substrate allows for a low cost device.

Additionally, regarding the gate insulating film comprising a BCB film, Kim et al. discloses forming a gate insulating film of BCB (see col. 4-line 27 to col. 6-line 13). In view of this disclosure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process of Hamatani et al. modified by Zhang and Curran so as to form a gate insulating film of BCB because this provides an organic gate insulating layer of stable TFT characteristics.

### ***Response to Arguments***

Applicant's arguments with respect to claims 14-16, 18-19, 31-36, 39-40, 43-44, 48-50 and 52-57 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

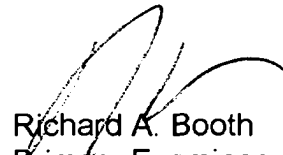
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard A. Booth whose telephone number is 308-3446. The examiner can normally be reached on Monday-Thursday from 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on 308-3325. The fax phone numbers for the organization where this application or proceeding is assigned are 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-1782.



Richard A. Booth  
Primary Examiner  
Art Unit 2812

December 11, 2003